Curlygrass Fern

Schizaea pusilla

Photo credits: *Troy Weldy*

Scientific Name *Schizaea pusilla* Pursh

Family Name Schizaeaceae Curly-grass Family

Did you know?
It's almost impossible to find this tiny fern without getting down on one's hands and knees, but be careful not to crush it! The genus Schizaea is from the Greek word schizo, to cut, and refers to the fertile frond that is delicately cut and divided (Meehan 1879).

Summary

Protection Endangered in New York State, not listed federally.

This level of state protection means: listed species are those with: 1) 5 or fewer extant sites, or 2) fewer than 1,000 individuals, or 3) restricted to fewer than 4 U.S.G.S. 7 ½ minute topographical maps, or 4) species listed as endangered by U.S. Department of Interior.

Rarity G3G4, S1

A global rarity rank of G3G4 means: Vulnerable globally, or Apparently Secure -- At moderate risk of extinction, with relatively few populations or locations in the world, few individuals, and/or restricted range; or uncommon but not rare globally; may be rare in some parts of its range; possibly some cause for long-term concern due to declines or other factors. More information is needed to assign a single conservation status.
A state rarity rank of S1 means: This plant is endangered/critically imperiled in New York because of extreme rarity (typically 5 or fewer populations or very few remaining individuals) or is extremely vulnerable to extirpation from New York due to biological factors.

Conservation Status in New York

There is only one existing population which is very small and has not been seen in recent years. There are two records, one from 1927 and one from 1929, that need to be rechecked to see if they still exist. One subpopulation of the existing population was destroyed by flooding in the 1980s.

Short-term Trends

The existing population has declined over the last few decades and two older records have not been rediscovered.

Long-term Trends

This plant has always been very rare in New York, and its numbers have been in severe decline over the last 90 years.

Conservation and Management

Threats

Severe drought or severe flooding is a threat to the remaining population as well as too many visits and trampling by people wanting to see the only population in New York.

Conservation Strategies and Management Practices

Visits to the lone remaining site should be restricted .

Research Needs

Monitoring of this population and its response to habitat changes is needed.

Habitat

At the only New York population still known to exist, Curlygrass Fern is found on higher sphagnous mounds within a series of low, wet swales. Historically it was also collected from cranberry bogs (New York Natural Heritage Program 2011). On hummocks in bogs or wet grassy places in acid soil (Gleason and Cronquist 1991). Open damp peaty or sandy depressions, sphagnous bogs and low mossy open woods, or even in crevices of ledgy shores, tablelands and lowlands (Fernald 1970).

Associated Ecological Communities

Maritime Freshwater Interdunal Swales
A mosaic of wetlands that occur in low areas between dunes along the Atlantic coast; the low areas (swales) are formed either by blowouts in the dunes that lower the soil surface to groundwater level, or by the seaward extension of dune fields. Water levels fluctuate seasonally and annually. Sedges and herbs are usually the most abundant types of plants. These wetlands may be quite small (less than 0.25 acre).

Other Probable Associated Communities

Coastal plain poor fen
Maritime pitch pine dune woodland

Associated Species

Twig Rush (*Cladium mariscoides*)
Spoon-leaved Sundew (*Drosera intermedia*)
Slender Blue Flag (*Iris prismatica*)
Canada Rush (*Juncus canadensis*)
Sphagnum
Large Cranberry (*Vaccinium macrocarpon*)

Identification Comments

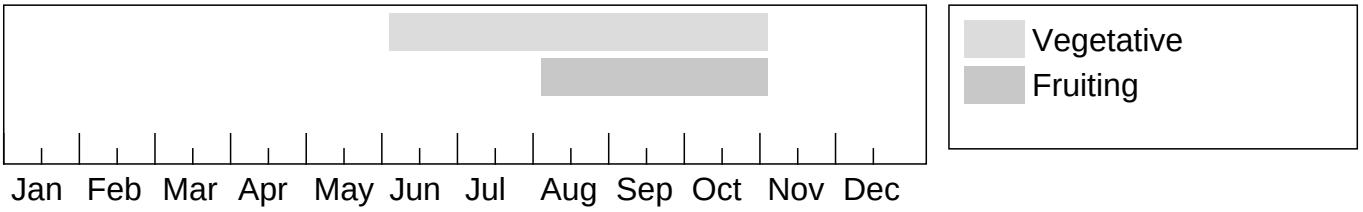
Curlygrass Fern is a small fern which grows low to the ground. The sterile and fertile leaves (fronds) are differently shaped. The sterile fronds are spiraling, curly, and slender (1-5 centimeters long by 0.2-0.3 millimeters wide), and form dense, crowded, somewhat grasslike tufts. The fertile fronds are much longer, slender (barely 0.5 mm wide), and erect (up to 10 centimeters tall). The fertile portion terminal, arranged into 3-8 pairs of crowded, finger-like pinnae 1.5 to 4 millimeters long, with multicellular hairs along their margins (FNA 1997).

Best Life Stage for Identifying This Species

Plants with fertile fronds are much more likely to be found, though an astute and lucky observer may identify vegetative plants as well.

The Best Time to See

Vegetative plants may, with lots of luck, be found from June until fall.



The time of year you would expect to find Curlygrass Fern in New York.

Similar Species

Curlygrass Fern is unlike any other fern within the NY flora. Because of its rarity and diminutive size, locating this plant is much more difficult than identifying it.

Taxonomy

Kingdom Plantae
└ **Phylum** Filicinophyta
└ **Class** Ferns (Filicopsida)
└ **Order** Filicales
└

Family Schizaeaceae (Curly-grass Family)

Additional Common Names

Curlygrass

Additional Resources

Links

The Native Flowers And Ferns Of The United States
http://chestofbooks.com/flora-plants/flowers/USA/New-Jersey-Schizaea-Schizaea-Pusilla-Pursh-Natural-Order-Filices.html

USDA Plants Database
http://plants.usda.gov/java/nameSearch?mode=sciname&keywordquery=SCHIZAEA+PUSILLA

NatureServe Explorer
http://natureserve.org/explorer/servlet/NatureServe?searchName=SCHIZAEA+PUSILLA

Google Images
http://images.google.com/images?q=SCHIZAEA+PUSILLA

Best Identification Reference

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This project is made possible with funding from:
- New York State Department of Environmental Conservation Hudson River Estuary Program
- Division of Lands & Forests, Department of Environmental Conservation
- New York State Office of Parks, Recreation and Historic Preservation

Information for this guide was last updated on Aug 15, 2017

This guide was authored by